

## **Submit 1 System Validation Plots**



**System Performance Check Data (850MHz Head)**

**Date of measurement: 01/19/2011**

**Area Scan: 7 x 7 x 1**

**dx=15mm dy=15mm**

**Zoom Scan: 5 x 5 x 7**

**dx=5mm dy=5mm dz=5mm**

**Z Axis Scan: 1 x 1 x 21**

**dx=20mm dy=20mm dz=5mm**

**A. Experimental conditions.**

<b>Phantom File</b>	<b>surf_sam_plan.txt, Adaptive 2 max</b>
<b>Phantom</b>	<b>Validation plane</b>
<b>Device Position</b>	<b>Body</b>
<b>Band</b>	<b>GSM850</b>
<b>Channels</b>	<b>Middle</b>
<b>Signal</b>	<b>CW</b>

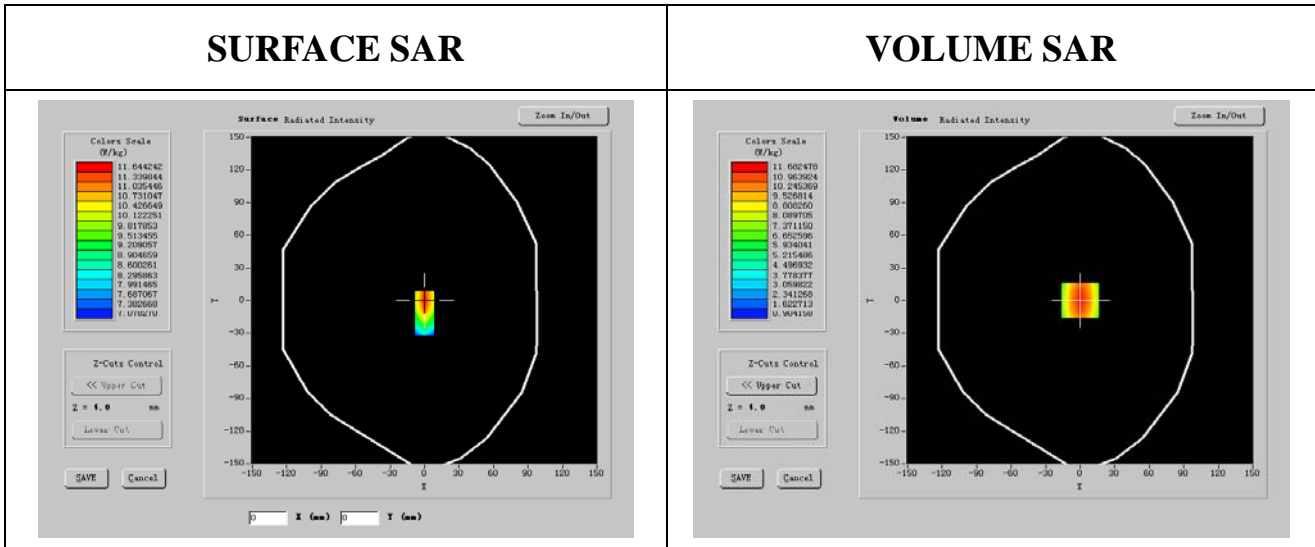
**B. Instrumentations.**

<b>PC</b>	<b>HP (Pentium(R) V3.06GHz, SN:375052-AA1)</b>	<b>Calibration Due: N/A</b>
<b>Wireless Communication Test Set</b>	<b>R&amp;S (CMU200, SN:B23-03291)</b>	<b>Calibration Due: 05/25/2011</b>
<b>Network Analyzer</b>	<b>Agilent(E5071B, MY42301382)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Voltmeter</b>	<b>Keithley (2000, SN:1015843)</b>	<b>Calibration Due: 05/25/2011</b>
<b>Signal Generator</b>	<b>Agilent (E8257C, SN:MY43321570)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Amplifier</b>	<b>Mini-Circuits (ZHL-42, SN:110405)</b>	<b>Calibration Due: 07/29/2011</b>
<b>Power Meter</b>	<b>Agilent (E4416A, SN:QB41292714)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Probe</b>	<b>Antenna (SN:SN_1109_EP_100)</b>	<b>Calibration Due: 05/04/2011</b>
<b>DIPOLE 835</b>	<b>Antenna (DIPC32,SN 48/05)</b>	<b>Calibration Due: 02/09/2011</b>
<b>Phantom</b>	<b>Antenna (SN:SN41_05_SAM29)</b>	<b>Calibration Due: N/A</b>
<b>Liquid</b>	<b>Antenna</b>	<b>Calibration Due: N/A</b>
<b>Measurement SW</b>	<b>OPEN SAR V2.1</b>	<b>Calibration Due: N/A</b>



**C. SAR Measurement Results**

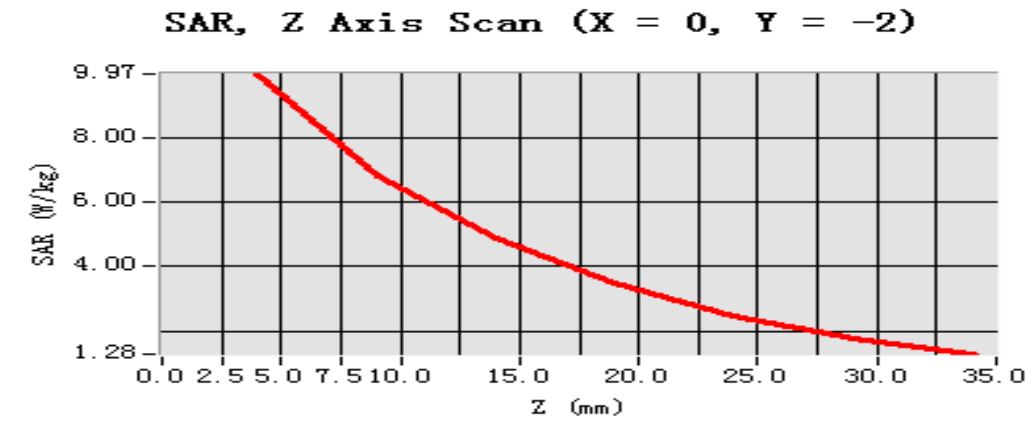
<b>Frequency (MHz)</b>	<b>835.000013</b>
<b>Relative permittivity (real part)</b>	<b>41.046299</b>
<b>Relative permittivity (imaginary part)</b>	<b>20.013956</b>
<b>Conductivity (S/m)</b>	<b>0.927326</b>
<b>Variation (%)</b>	<b>-0.450000</b>
<b>Ambient Temperature:</b>	<b>21.3 °C</b>
<b>Liquid Temperature:</b>	<b>20.4 °C</b>
<b>ConvF:</b>	<b>20.66, 20.51, 28.36</b>
<b>Crest factor:</b>	<b>1:1</b>



**Maximum location: X=0.00, Y=-5.00**

<b>SAR 10g (W/Kg)</b>	<b>6.371643</b>
<b>SAR 1g (W/Kg)</b>	<b>9.361267</b>

**Z Axis Scan**





**System Performance Check Data (850MHz Body)**

**Date of measurement: 01/19/2011**

**Area Scan: 7 x 7 x 1**

**dx=15mm dy=15mm**

**Zoom Scan: 5 x 5 x 7**

**dx=5mm dy=5mm dz=5mm**

**Z Axis Scan: 1 x 1 x 21**

**dx=20mm dy=20mm dz=5mm**

**A. Experimental conditions.**

<b>Phantom File</b>	<b>surf_sam_plan.txt, Adaptive 2 max</b>
<b>Phantom</b>	<b>Validation plane</b>
<b>Device Position</b>	<b>Body</b>
<b>Band</b>	<b>GSM850</b>
<b>Channels</b>	<b>Middle</b>
<b>Signal</b>	<b>CW</b>

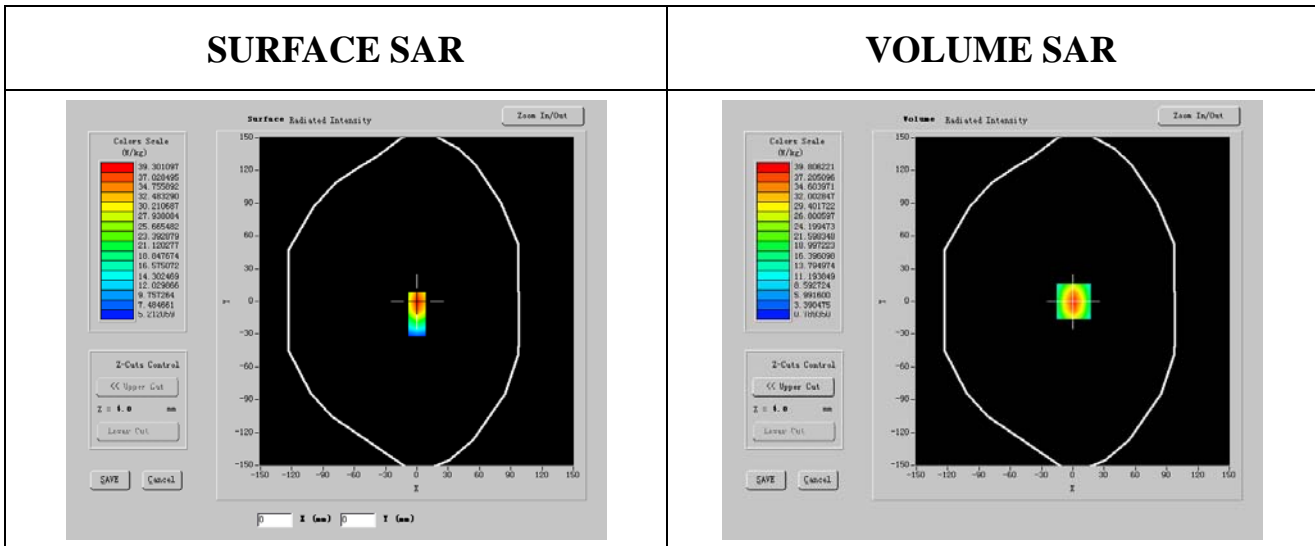
**B. Instrumentations.**

<b>PC</b>	<b>HP (Pentium(R) V3.06GHz, SN:375052-AA1)</b>	<b>Calibration Due: N/A</b>
<b>Wireless Communication Test Set</b>	<b>R&amp;S (CMU200, SN:B23-03291)</b>	<b>Calibration Due: 05/25/2011</b>
<b>Network Analyzer</b>	<b>Agilent(E5071B, MY42301382)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Voltmeter</b>	<b>Keithley (2000, SN:1015843)</b>	<b>Calibration Due: 05/25/2011</b>
<b>Signal Generator</b>	<b>Agilent (E8257C, SN:MY43321570)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Amplifier</b>	<b>Mini-Circuits (ZHL-42, SN:110405)</b>	<b>Calibration Due: 07/29/2011</b>
<b>Power Meter</b>	<b>Agilent (E4416A, SN:QB41292714)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Probe</b>	<b>Antenna (SN:SN_1109_EP_100)</b>	<b>Calibration Due: 05/04/2011</b>
<b>DIPOLE 835</b>	<b>Antenna (DIPC32,SN 48/05)</b>	<b>Calibration Due: 02/09/2011</b>
<b>Phantom</b>	<b>Antenna (SN:SN41_05_SAM29)</b>	<b>Calibration Due: N/A</b>
<b>Liquid</b>	<b>Antenna</b>	<b>Calibration Due: N/A</b>
<b>Measurement SW</b>	<b>OPEN SAR V2.1</b>	<b>Calibration Due: N/A</b>



**C. SAR Measurement Results**

<b>Frequency (MHz)</b>	<b>835.000013</b>
<b>Relative permittivity (real part)</b>	<b>54.621699</b>
<b>Relative permittivity (imaginary part)</b>	<b>21.856403</b>
<b>Conductivity (S/m)</b>	<b>0.937901</b>
<b>Variation (%)</b>	<b>-0.720000</b>
<b>Ambient Temperature:</b>	<b>21.3 °C</b>
<b>Liquid Temperature:</b>	<b>20.4 °C</b>
<b>ConvF:</b>	<b>20.00, 19.88, 27.77</b>
<b>Crest factor:</b>	<b>1:1</b>

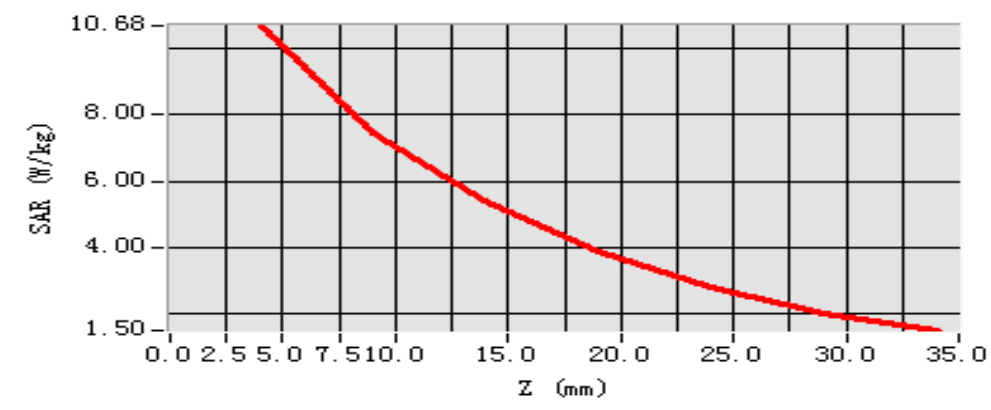


**Maximum location: X=0.00, Y=-5.00**

<b>SAR 10g (W/Kg)</b>	<b>6.802715</b>
<b>SAR 1g (W/Kg)</b>	<b>9.384317</b>

**Z Axis Scan**

**SAR, Z Axis Scan (X = 0, Y = 0)**





**System Performance Check Data (1900MHz Head)**

**Date of measurement: 01/19/2011**

**Area Scan: 7 x 7 x 1**

**dx=15mm dy=15mm**

**Zoom Scan: 5 x 5 x 7**

**dx=5mm dy=5mm dz=5mm**

**Z Axis Scan: 1 x 1 x 21**

**dx=20mm dy=20mm dz=5mm**

**A. Experimental conditions.**

<b>Phantom File</b>	<b>surf_sam_plan.txt, Adaptive 2 max</b>
<b>Phantom</b>	<b>Validation plane</b>
<b>Device Position</b>	<b>Body</b>
<b>Band</b>	<b>GSM1900</b>
<b>Channels</b>	<b>Middle</b>
<b>Signal</b>	<b>CW</b>

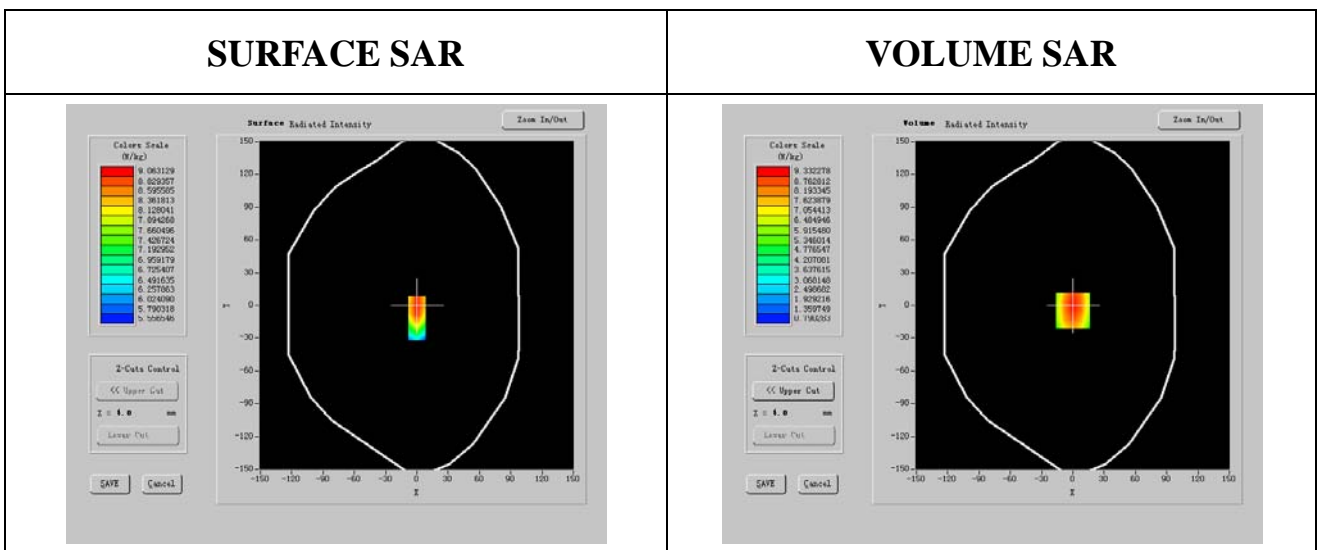
**B. Instrumentations.**

<b>PC</b>	<b>HP (Pentium(R) V3.06GHz, SN:375052-AA1)</b>	<b>Calibration Due: N/A</b>
<b>Wireless Communication Test Set</b>	<b>R&amp;S (CMU200, SN:B23-03291)</b>	<b>Calibration Due: 05/25/2011</b>
<b>Network Analyzer</b>	<b>Agilent(E5071B, MY42301382)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Voltmeter</b>	<b>Keithley (2000, SN:1015843)</b>	<b>Calibration Due: 05/25/2011</b>
<b>Signal Generator</b>	<b>Agilent (E8257C, SN:MY43321570)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Amplifier</b>	<b>Mini-Circuits (ZHL-42, SN:110405)</b>	<b>Calibration Due: 07/29/2011</b>
<b>Power Meter</b>	<b>Agilent (E4416A, SN:QB41292714)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Probe</b>	<b>Antenna (SN:SN_1109_EP_100)</b>	<b>Calibration Due: 05/04/2011</b>
<b>DIPOLE 1900</b>	<b>Antenna (DIPG35,SN 48/05)</b>	<b>Calibration Due: 02/09/2011</b>
<b>Phantom</b>	<b>Antenna (SN:SN41_05_SAM29)</b>	<b>Calibration Due: N/A</b>
<b>Liquid</b>	<b>Antenna</b>	<b>Calibration Due: N/A</b>
<b>Measurement SW</b>	<b>OPEN SAR V2.1</b>	<b>Calibration Due: N/A</b>



**C. SAR Measurement Results**

<b>Frequency (MHz)</b>	<b>1900.000000</b>
<b>Relative permittivity (real part)</b>	<b>40.671399</b>
<b>Relative permittivity (imaginary part)</b>	<b>13.503276</b>
<b>Conductivity (S/m)</b>	<b>1.374023</b>
<b>Variation (%)</b>	<b>-0.450000</b>
<b>Ambient Temperature</b>	<b>21.3°C</b>
<b>Liquid Temperature</b>	<b>20.5 °C</b>
<b>ConvF</b>	<b>41.05, 42.35, 55.45</b>
<b>Crest factor</b>	<b>1:1</b>

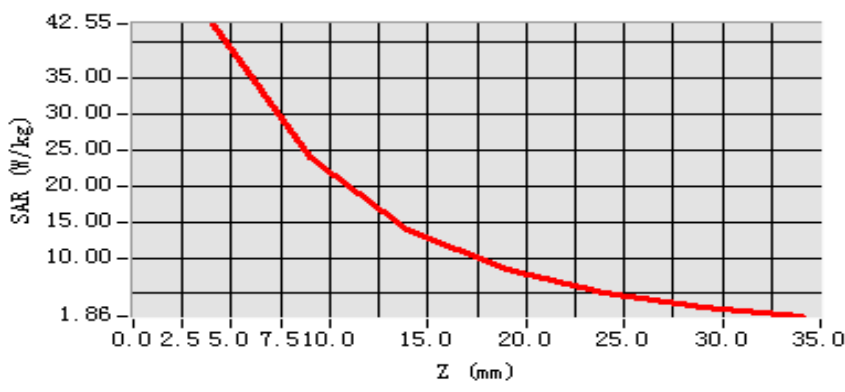


**Maximum location: X=0.00, Y=-5.00**

<b>SAR 10g (W/Kg)</b>	<b>21.276033</b>
<b>SAR 1g (W/Kg)</b>	<b>40.280655</b>

**Z Axis Scan**

**SAR, Z Axis Scan (X = 0, Y = 0)**





**System Performance Check Data (1900MHz Body)**

**Date of measurement: 01/19/2011**

**Area Scan: 7 x 7 x 1                      dx=15mm            dy=15mm**  
**Zoom Scan: 5 x 5 x 7                    dx=5mm             dy=5mm            dz=5mm**  
**Z Axis Scan: 1 x 1 x 21                dx=20mm           dy=20mm           dz=5mm**

**A. Experimental conditions.**

<b>Phantom File</b>	<b>surf_sam_plan.txt, Adaptive 2 max</b>
<b>Phantom</b>	<b>Validation plane</b>
<b>Device Position</b>	<b>Body</b>
<b>Band</b>	<b>GSM1900</b>
<b>Channels</b>	<b>Middle</b>
<b>Signal</b>	<b>CW</b>

**B. Instrumentations.**

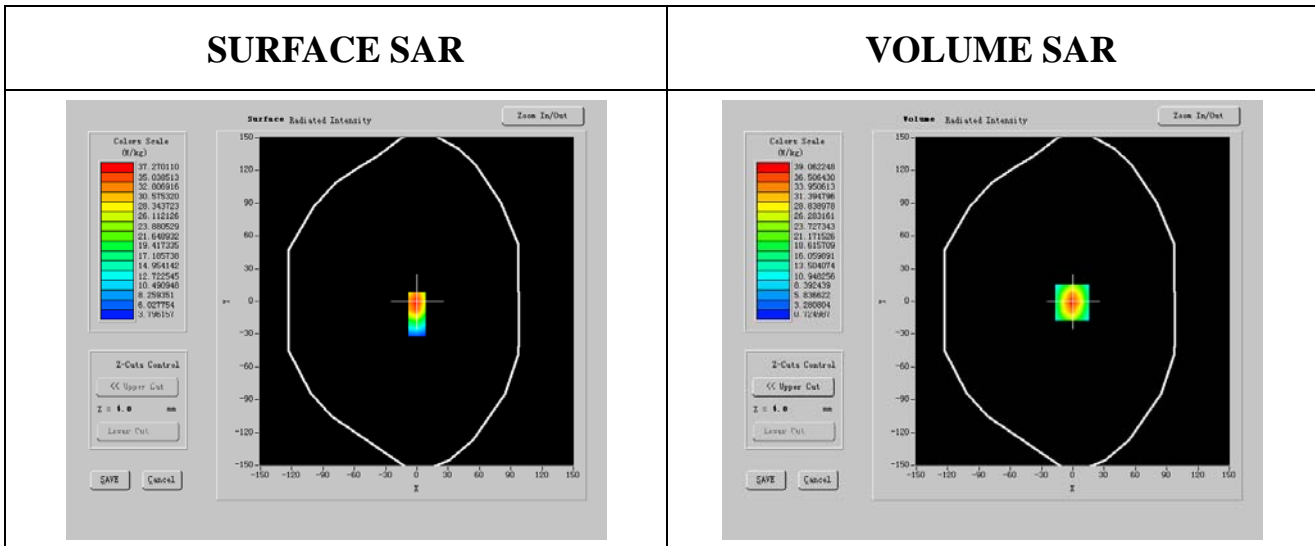
<b>PC</b>	<b>HP (Pentium(R) V3.06GHz, SN:375052-AA1)</b>	<b>Calibration Due: N/A</b>
<b>Wireless Communication Test Set</b>	<b>R&amp;S (CMU200, SN:B23-03291)</b>	<b>Calibration Due: 05/25/2011</b>
<b>Network Analyzer</b>	<b>Agilent(E5071B, MY42301382)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Voltmeter</b>	<b>Keithley (2000, SN:1015843)</b>	<b>Calibration Due: 05/25/2011</b>
<b>Signal Generator</b>	<b>Agilent (E8257C, SN:MY43321570)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Amplifier</b>	<b>Mini-Circuits (ZHL-42, SN:110405)</b>	<b>Calibration Due: 07/29/2011</b>
<b>Power Meter</b>	<b>Agilent (E4416A, SN:QB41292714)</b>	<b>Calibration Due: 03/24/2011</b>
<b>Probe</b>	<b>Antennessa (SN:SN_1109_EP_100)</b>	<b>Calibration Due: 05/04/2011</b>
<b>DIPOLE 1900</b>	<b>Antennessa (DIPG35,SN 48/05)</b>	<b>Calibration Due: 02/09/2011</b>
<b>Phantom</b>	<b>Antennessa (SN:SN41_05_SAM29)</b>	<b>Calibration Due: N/A</b>
<b>Liquid</b>	<b>Antennessa</b>	<b>Calibration Due: N/A</b>
<b>Measurement SW</b>	<b>OPEN SAR V2.1</b>	<b>Calibration Due: N/A</b>





**C. SAR Measurement Results**

<b>Frequency (MHz)</b>	<b>1900.000000</b>
<b>Relative permittivity (real part)</b>	<b>52.480703</b>
<b>Relative permittivity (imaginary part)</b>	<b>13.612907</b>
<b>Conductivity (S/m)</b>	<b>1.557301</b>
<b>Variation (%)</b>	<b>-0.440000</b>
<b>Ambient Temperature</b>	<b>21.3 °C</b>
<b>Liquid Temperature</b>	<b>20.5 °C</b>
<b>ConvF</b>	<b>40.42, 41.12, 54.75</b>
<b>Crest factor</b>	<b>1:1</b>



**Maximum location: X=0.00, Y=-1.00**

<b>SAR 10g (W/Kg)</b>	<b>20.170366</b>
<b>SAR 1g (W/Kg)</b>	<b>40.694803</b>

**Z Axis Scan**

**SAR, Z Axis Scan (X = 0, Y = -1)**

